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CLAIMS

1. A method of fabricating a hermetic electrical feedthrough comprising:

providing an unfired ceramic sheet having upper and lower surfaces;

forming a blind hole in said ceramic sheet extending from said upper surface toward said lower surface;

inserting a wire into said blind hole;

firing said sheet and wire to a temperature sufficient to sinter the sheet material and cause it to form a hermetic compression seal around said wire; and

removing sufficient sheet material from said sheet lower surface to expose said wire.

2. The method of claim 1 wherein said ceramic sheet is formed of material comprised of at least 99% aluminum oxide.

3. The method of claim 1 wherein said ceramic sheet after said firing and material removal steps is less than 40 mils thick.

4. The method of claim 1 wherein said ceramic sheet after said firing and material removal steps is less than 15 mils thick.

5. The method of claim 1 wherein said wire is formed platinum.

6. The method of claim 1 wherein said wire has a diameter of less than 20 mils.

7. The method of claim 1 wherein said wire has a diameter of less than 10 mils.

8. A method of forming multiple hermetic electrical feedthroughs comprising the sequential steps of:

forming multiple blind holes in an unfired sheet of ceramic material, each hole extending from an upper sheet surface to a hole floor spaced from the lower surface of said sheet;

inserting a wire into each hole so that the lower end of each wire is supported on a hole floor;

firing said sheet and wires to shrink said ceramic material to form a hermetic compression seal around each wire; and

removing ceramic material from said sheet lower surface to said hole floors to expose the lower ends of said wires.

9. The method of claim 8 including a further step of lapping a sheet surface so that the ends of said wires are flush with the surface.

10. The method of claim 8 including a further step of dicing said sheet to form multiple dies each including multiple hermetic electrical feedthroughs.

11. The method of claim 8 wherein said ceramic material is from the group comprised of aluminum oxide and zirconia.

12. The method of claim 8 wherein said ceramic material comprises at least 99% aluminum oxide.

13. The method of claim 8 wherein each of said wires is formed of a material from the group including platinum, titanium, gold, palladum, tantalum, niobium.

14. The method of claim 8 wherein said wires are formed of substantially pure platinum.

15. The method of claim 8 wherein said sheet after lapping has a thickness of less than 15 mils.

16. The method of claim 8 wherein at least some of said wires have a diameter of less than 10 mils.

17. The method of claim 8 wherein said firing step includes subjecting said sheet to a temperature sufficient to sinter the ceramic material.

18 A hermetic electrical feedthrough comprising:

a sheet of ceramic material having upper and lower parallel surfaces spaced by less than 40 mils;

at least one wire extending through said sheet; and wherein

said ceramic material forms a hermetic seal around said wire.

19. The feedthrough of claim 18 wherein said upper and lower surfaces are spaced by less than 20 mils.

20. The feedthrough of claim 18 including a plurality of wires extending through said sheet; and wherein

at least some of said wires are spaced by less than 20 mils.

21. The feedthrough of claim 18 wherein said wire includes an end terminating flush with one of said sheet surfaces.

22. The feedthrough of claim 18 wherein one end of said wire protrudes beyond one of said sheet surfaces.

23. The feedthrough of claim 18 wherein said wire has a diameter of less than 10 mils.

24. The feedthrough of claim 18 wherein said ceramic material is from the group comprised of aluminum oxide and zirconia.

25. The feedthrough of claim 18 wherein said ceramic material comprises at least 99% aluminum oxide.

26. The feedthrough of claim 18 wherein each of said wires is formed of a material from the group including platinum, titanium, gold, palladum, tantalum, niobium.

27. The feedthrough of claim 18 wherein said wires are formed of substantially pure platinum.

28. A hermetic electrical feedthrough comprising:

a sheet of ceramic material having upper and lower parallel surfaces spaced by less than about 40 mils;

at least one wire extending through said sheet;

said ceramic material forming a hermetic seal around said wire; and wherein

said wire has a diameter of less than 10 mils.

29. The feedthrough of claim 28 wherein said upper and lower surfaces are spaced by less than 20 mils.

30. The feedthrough of claim 28 including a plurality of wires extending through said sheet; and wherein

at least some of said wires are spaced by less than 20 mils.

31. The feedthrough of claim 28 wherein said wire includes an end terminating flush with one of said sheet surfaces.

32. The feedthrough of claim 28 wherein one end of said wire protrudes beyond one of said sheet surfaces.

33. The feedthrough of claim 28 wherein said ceramic material is from the group comprised of aluminum oxide and zirconia.

34. The feedthrough of claim 28 wherein said ceramic material comprises at least 99% aluminum oxide.

35. The feedthrough of claim 28 wherein each of said wires is formed of a material from the group including platinum, titanium, gold, palladum, tantalum, niobium.

36. The feedthrough of claim 28 wherein said wires are formed of substantially pure platinum.